

Amendments to the Specification:

Please delete paragraph 6 on page 9 and add the following new paragraph:

DETAILED DESCRIPTION OF THE DRAWINGS

The apparatus 1 for simulating electrical S/A components has a drive module 4 and two signal interfaces 12, 26. The apparatus 1 simulates a sensor, for example, which acquires specific data in the real vehicle, or an actuator which is driven by an E/E component in the real vehicle. For the sensor/actuator simulation, ~~a sensor model 6 for the sensor or an actuator model 6, 7 for the actuator~~ is stored in the drive module 4. The sensor/actuator models 6 and/or 7 are in each case models which are based on mathematical equations and are created by a special design tool, for example. In order to simplify the real conditions, the sensor/actuator models 6 and 7 may be composed of simpler equivalent circuits, for example current and voltage sources, complex impedances, switching devices or devices having variable parameters. In this way, for each S/A component to be simulated, a ~~model~~ module 6 and/or 7 is stored in the drive module 4, in particular in an electronic computer.

Please delete paragraph 1 on page 12 and add the following new paragraph:

In the regulating circuit 21, with the actual-value variable voltage U, the actual-value variable current I and the desired value specification, the drive signals for the switching transistors 22 and 23 are generated in a suitable way by means of a PID regulator with two pulse width modulators connected downstream. It is particularly advantageous for the switching transistor 22 to be driven by means of a first pulse width modulation and for the switching transistor 23 to be driven by means of a second pulse width

modulation. By virtue of the first pulse width modulation being fixedly linked temporally with the second pulse width modulation, an optimum regulation behaviour is achieved in the zero region of the output voltage U and of the output current I. Both the measured current I and the measured voltage U are reported back to the model 6 in the drive module 4 again via the feedback actual-value interfaces 10 and 11, with the result that the output voltage - provided by the model 6 - at the signal interface connection pin 28 can be adjusted by the regulating circuit 21. The desired value specification 14 is made available to the regulating circuit 21 once again by the model 6 via the digital/~~analogue~~ analog converter 17.

Please delete paragraph 3 on page 13 and add the following new paragraph:

As an alternative, the external device shown in Figure 3 can be used for measuring a real S/A component 31 with a signal generator 40 41 at different temperatures. The temperature is set by means of a temperature cell ~~39~~ 40.